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MINERALS PROGRAM
FILE COPY

July 2, 1990

TO: Minerals Staff

FROM: Holland Shepherd, Reclamation Specialist *HS*

RE: Meeting with Sindor and JBR, Cadmium Question, M/037/032, San Juan County, Utah

Tony Gallegos and I met today with Mr. Gary Butts, Vice President Sindor Corporation, and Mr. Brian Buck of JBR Consultants. The meeting was held to discuss the reactivation of the Lisbon Valley Copper Mine Plan and specifically to discuss an existing cadmium groundwater problem at the mine site. The operator is concerned that mitigating the cadmium problem would make the operation uneconomical, and was interested in what the Division will require in this regard.

Apparently, cadmium has shown up in 3 places on site: 1) a well drilled next to the Centennial Pit showed up 4.69 mg/l; 2) the pond water from the bottom of the pit showed up .346 mg/l; and 3) an old process water well, several hundred yards from the pit, showed up with .025 mg/l. For reference, EPA limits for cadmium in drinking water is .01 mg/l. Cadmium is toxic in very low concentrations. It affects aquatic life at concentrations of .0018 mg/l, plants at 1 mg/l.

We indicated to the operator, that water ponding in the pit at final reclamation would not be acceptable. The ponding of water could be surface runoff, but not groundwater; the groundwater having the highest concentration of cadmium.

The operator plans to mine the pit below the groundwater table. Water ponding below the groundwater level would contain more cadmium than water originating from surface runoff. We indicated that the operator would have to backfill the pit to a point above the typical groundwater elevation. This would prevent the formation of a permanent pond containing high levels of cadmium. It is important to prevent the availability of this type of water to wildlife and domestic, grazing animals.

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Mr. Buck indicated that JBR will do some more research into the levels of cadmium that are dangerous to wildlife. According to Mr. Buck, if the hardness or CaCO_3 levels of water are high, the toxic effects of cadmium will be reduced by several orders of magnitude. Also, JBR intends to perform more testing in the area for cadmium to get a more specific idea of the levels we will be working with. After generating this information, the Division will make the final decision regarding the backfilling of the pit, up to and above the average groundwater level.

jb
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